

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Takaaki MIYOSHI

Serial No. 10/588,500

Group Art Unit: 1796

Confirmation No. 9218

Filed: August 4, 2006

Examiner: MULLIS, JEFFREY C

For: POLYAMIDE/POLYPHENYLENE ETHER RESIN COMPOSITION

**PRE-APPEAL BRIEF CONFERENCE REQUEST**

Attention: MAIL STOP AF  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

Applicant requests review of the final Office Action in the above-identified application. No amendments are being filed with this request. This request is being filed with a Notice of Appeal and requisite fee.

This review is requested for at least the following reasons:

**I. There is no suggestion to use the SBC of Kusano et al.(U.S. 5,6,16,652) in either Nakagawa et al. (US 2004/0157978 or WO02/0094936) or Miyoshi (US 2003/0139518.**

On page 2 of the Office Action, the Examiner admits that Nakagawa et al. does not disclose the claimed SBC. The Examiner argues that it would have been obvious to use the Kusano et al. SBC in place of the Nakagawa et al. SBC. On page 3 of the Office Action, the Examiner argues that it would have been obvious to use the components of Miyoshi et al. with Kusano et al. Applicant submits that it would not have been obvious to use the Kusano et al. SBC with the other references for the following reasons.

First, Kusano et al. discloses different thermoplastic resins in combination with the Kusano et al. styrene butadiene copolymer (SBC). The Kusano et al. list of thermoplastic resins is somewhat extensive, but does not include PPE. Because Kusano et al. lists numerous thermoplastic resins, but does not mention PPE, Applicant submits that it would not have been

obvious to use the Kusano et al. SBC with PPE. That is, if Kusano et al. intended for the SBC to be used with PPE, Kusano et al. would have so stated. The Examiner's comments in the Advisory Action fail to recognize the validity of this argument. The expression of one is the exclusion of the other. *expression unius est exclusio alterius*

The Examiner states that it would have been obvious to use the SBC of Kusano et al. in Nakagawa et al. or Miyoshi et al. to obtain benefits such as "improved handling, high capability to absorb softener, and thorough melting upon mixing." The Examiner appears to believe that "[s]uch benefits are associated with the SBC, not the thermoplastic to which it is added and therefore those skilled in the art would conclude that such benefits would result from use of the SBC of [Kusano] as the SBC of the primary reference."

However, the Examiner's argument is based on incomplete information. The Examiner cites column 2, lines 5-10 of the reference. This excerpt provides:

It is an object of the present invention to provide microporous crumbs of a hydrogenated block copolymer which absorb a softening agent, a plasticizer and the like uniformly and rapidly, have an excellent handling property and provide kneaded molding compounds free of non-melted matters upon kneading.

Even though the Examiner's argument crucially relies upon Kusano to teach a relationship between packed bulk density and a handling property, column 2, lines 5-10 discloses no such relationship.

Column 4, lines 60-63 of Kusano et al. teaches the following property relationship:

If the bulk density of the crumbs is less than 0.18 g/cc, the handling property of the crumbs after the absorption of a softening agent, a plasticizer or the like is poor.

At column 4, Kusano et al. clarifies that the bulk density is only a concern if one is worried about the handing property after the absorption of a softening agent, a plasticizer or the like. Without a softening agent/plasticizer or oil, the handling property described at column 4 of Kusano et al. is irrelevant.

The Examiner seems to believe that there is a direct relationship between the handling property described in Kusano et al. and good extruder feeding properties. This is incorrect. The handling property of Kusano et al. relates to SBC crumbs that have absorbed a softening agent/plasticizer/oil.

Applicant previously question whether the Nakagawa or Miyoshi process would function properly if combined with the Kusano oil treatment process. In the Advisory Action, the

Examiner responds to this argument by noting that oil is mentioned in Nakagawa et al. The Examiner is requested to note that the oil process of Kusano et al. involves soaking SBC crumbs in oil for thirty minutes. Kusano states "sagging of the crumbs was defined as a judging criteria as to whether the crumbs are easily fed to an extruder or not in order to make evaluation of the handling property of the crumbs after the absorption of oils. The crumbs showing a greater extent of sagging have a better handling property." Applicant questions how this relates to Nakagawa.

In view of the foregoing, Applicant submits that it would not have been obvious to use the SBC of Kusano et al. with either of the other references.

**II. US Patent No. 5,616,652 to Kusano et al. does not disclose or suggest the claimed packed bulk density range.**

In both prior art rejections, Kusano et al. is relied upon for the claimed packed bulk density. The claims refer to a packed bulk density of a copolymer that is fed to an extruder. Kusano et al. refers to a bulk density before absorption of a softening agent or a plasticizer. Applicant previously argued that the benefits described in the column 2 excerpt cited by the Examiner are not related to any particular SBC property. If one of ordinary skill in the art wanted to achieve the properties described at column 2 of Kusano et al., one of ordinary skill in the art would use the most specific example of Kusano et al. As mentioned before, it appears that Kraton G1651 could have been used with the Kusano et al. process. However, Kraton G1651 has a bulk density of 0.279, outside the claimed range. Kusano et al. only mentions that a bulk density of more than 0.18 g/cc should be used (for improved oil absorption properties).

In the Advisory Action, the Examiner asserts that the density of Kusano Example 1 is within the claimed range. However, as described previously it is improper to compare the claimed packed bulk density with other densities. Attached are two articles that describe the differences in density measurements. Word IQ, <http://www.wordiq.com/definition/Density>, describes different types of densities as follows:

Under specified conditions of temperature and pressure, density of a fluid is defined as described above. However, the density of a solid material can be different, depending on exactly how it is defined. Take sand for example. If you gently fill a container with sand, and divide the mass of sand by the container volume you get a value termed *loose bulk density*. If you took this same container and tapped on it repeatedly, allowing the sand to settle and pack together, and then calculate the results, you get a value termed *tapped* or *packed bulk density*. Tapped bulk density is always greater than or equal to loose bulk density. In both types of bulk density, some of the volume is taken up by the spaces between the grains of sand. If you are interested in the density of the

grain of sand itself you need to measure either envelope density or absolute density.

Material Properties Affecting Solids Blending and Blender Selection: Bulk Density, <http://www.brighthub.com/engineering/mechanical/articles/53444.aspx#ixzz10NARFj00> specifically states, "Since the material is compacted the entrained air is displaced and the void space is reduced. As a result, the value of packed bulk density is higher than that of loose bulk density."

The Examiner cites US Patent 4,657,767 to Meade for the proposition that the densities are comparable. The Examiner specifically refers to the paragraph bridging columns 7 and 8 of the reference. However, this excerpt supports Applicant's position that the densities are not comparable. Col. 8, lines 41-43 of states "When the agglomerates of the subject product were disintegrated by crushing the bulk, density was increased. The capacity of the equipment was relatively high, being about 8,000 pounds of dry whey per hour."

In view of the foregoing, Applicant submits that any combination of Kusano et al. with Nakagawa et al. or Miyoshi et al. would not meet the claimed packed bulk density requirement.

### III. CONCLUSION

Accordingly, Applicant respectfully submits that the rejections should be withdrawn. Further, Applicant respectfully requests that the Office issue a finding that the application is allowed on the existing claims and that prosecution remains closed.

If there are any additional fees associated with filing of this Request, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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